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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,731	12/20/2001	In-Kyeong Choi	P67433US0	5602

7590 03/07/2005

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EXAMINER	
LE, AMANDA T	

ART UNIT	PAPER NUMBER
2634	

DATE MAILED: 03/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/022,731	CHOI ET AL.	
	Examiner	Art Unit	
	Amanda T Le	2634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *12/20/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, the claim recites "demodulating means for receiving a residual signal or a received signal" (lines 4-5) and "subtracting means for subtracting the band spread signal from the received signal to thereby output the residual signal". It is unclear whether the same "received signal" is meant to be input to the "demodulating means" and the "subtracting means". Similarly, the recitation "wherein a succeeding M11 cancellation apparatus receives as input signals a residual signal outputted from a subtracting means, a signal on the chip basis outputted from a delay means and a received signal outputted from a buffering means of a previous MAI cancellation apparatus" (claim 3, lines 4-8) or "I signal/o signal decimators for down-sampling an I channel signal and a Q channel signal of the received signal or the residual signal to signals on the chip basis, respectively" (claim 6, lines 3-6) is vague for the same reasons.

In claim 1, on line 7, the recitation "down-sampling the baseband spread signal on from (underlined added) the over-sample basis" is unclear.

In claim 1, line 21, the claim recites "delaying the signals on the chip basis outputted from the regenerating means". It is unclear whether "delaying, on the chip basis, the signals outputted from the regenerating means" is meant, since "the signals output from the regenerating means" is on the over-sample basis (line 12).

Allowable Subject Matter

3. Claims 1-10 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

4. The following is a statement of reasons for the indication of allowable subject matter: Prior art of record, taken individually or collectively, fails to disclose a receiver of a CDMA system employing a multiple access interference (MAI) cancellation apparatus having the arrangement of the claimed invention.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kenny (US 6,580,771), Madkour et al (US 6,574,270) and Fuller et al (US 2003/0095590) disclose different interference cancellation apparatus for use in a multiple user system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda T Le whose telephone number is (571) 272-3052.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Amanda Le

AMANDA T. LE
PRIMARY EXAMINER